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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,551	03/07/2002	Hideo Kurokawa	OGOH: 105	6885

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EXAMINER
TRAN, CHUC

ART UNIT	PAPER NUMBER
2821	

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/070,551	KUROKAWA ET AL.	
	Examiner	Art Unit	
	Chuc D Tran	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 March 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-58* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-58* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-2, 6-7, 10-18, 22-23, 26-35, 37-38 and 43-55 are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki et al (USP. 6,469,431).

Regarding claims 1 and 2, Suzuki et al disclose a color CRT having shadow mask with vibration attenuator comprising:

- a cathode ray tube (1), a phosphor screen (2a), a shadow mask (6), a mask frame (7) (Fig. 15) (Col. 1, Line14), an elastic support member (13) (Fig. 9) (Col. 10, Line) while the phosphor screen is opposed to the shadow mask (Col. 1, Line 18); wherein

- the elastic support member (13) has a fixed portion (13a) is located in the middle portion of a frame portion (11a) (Fig. 9) and the shadow mask is configured the tension in the

middle portion of the shadow mask is larger than the tension at the edge portion of the shadow mask (Col. 8, Line 44).

Regarding claim 6, the cathode ray tube according to claim 1, wherein the elastic support member includes a vibration suppressing structure (Col. 3, Line 35).

Regarding claims 10-16, Suzuki et al disclose a color CRT having shadow mask with vibration attenuator comprising:

- the tension distribution of the shadow mask T1>T2>13 (Col. 3, Line 26) and T1>1.1>T3 (Col. 3, Line 30);
- the shadow mask is provided with a damper (15) for attenuating the vibration (Col. 2, Line 15;
- the damper (15) is freely movable (Col. 13, Line 49);
- the damper (15) is inserted into an opening formed in the shadow mask (Col. 13, Line 49);
- the damper is wire like member (Col. 13, Line 17) (Fig. 13);
- the damper (15) is a ring (Col. 13, Line 24) (Fig. 13); wherein
- the shadow mask is made of Fe-Ni alloy (Col. 6, Line 48).

Regarding claims 17-18, Suzuki et al disclose a color CRT having shadow mask with vibration attenuator comprising:

- a cathode ray tube (1), a phosphor screen (2a), a shadow mask (6), a mask frame (7) (Fig. 15) (Col. 1, Line14), an elastic support member (13) (Fig. 9) (Col. 10, Line) while the phosphor screen is opposed to the shadow mask (Col. 1, Line 18); wherein

- the elastic support member (13) has a fixed portion (13a) is located in the middle portion of a frame portion (11a) (Fig. 9) and the shadow mask is configured the tension in the middle portion of the shadow mask is larger than the tension at the edge portion of the shadow mask (Col. 8, Line 44).

Regarding claim 22, the cathode ray tube according to claim 1, wherein the elastic support member includes a vibration suppressing structure (Col. 3, Line 35).

Regarding claims 26-32, Suzuki et al disclose a color CRT having shadow mask with vibration attenuator comprising:

- the tension distribution of the shadow mask T1>T2>13 (Col. 3, Line 26) and T1>1.1>T3 (Col. 3, Line 30);
- the shadow mask is provided with a damper (15) for attenuating the vibration (Col. 2, Line 15;
- the damper (15) is freely movable (Col. 13, Line 49);
- the damper (15) is inserted into an opening formed in the shadow mask (Col. 13, Line 49);
- the damper is wire like member (Col. 13, Line 17) (Fig. 13);
- the damper (15) is a ring (Col. 13, Line 24) (Fig. 13); wherein
- the shadow mask is made of Fe-Ni alloy (Col. 6, Line 48).

Regarding claims 33-35, Suzuki et al disclose a color CRT having shadow mask with vibration attenuator comprising:

- a cathode ray tube (1), a phosphor screen (2a), a shadow mask (6), a mask frame (7)

(Fig. 15) (Col. 1, Line14), an elastic support member (13) (Fig. 9) (Col. 10, Line) while the phosphor screen is opposed to the shadow mask (Col. 1, Line 18) (Col. 4, Line 63) (Fig. 2); wherein

- the elastic support member (13) has a fixed portion (13a) is located in the middle portion of a frame portion (11a) (Fig. 9) and the shadow mask is configured the tension in the middle portion of the shadow mask is larger than the tension at the edge portion of the shadow mask (Col. 8, Line 44); and

- the plurality of elastic support members (Fig. 9) are at least two elastic support member having substantially different spring constants are combined (Col. 8, Line 5).

Regarding claim 37, according to claim 35, wherein the opposing elastic support member have the same spring constant (Col. 8, Line 3).

Regarding claims 7, 23 and 38, Suzuki et al disclose a color CRT having shadow mask with vibration attenuator comprising:

- the spring constant of the elastic support member (13) is adjusted by forming an opening in the connecting portion of the elastic support member and adjusting the size of the opening (Col. 11, Line 15).

Regarding claims 43-52, Suzuki et al disclose a color CRT having shadow mask with stretched across the frame (Col. 8, line 4);

- the tension distribution of the shadow mask T1>T2>13 (Col. 3, Line 26) and T1>1.1>T3 (Col. 3, Line 30);

- the shadow mask is provided with a damper (15) for attenuating the vibration (Col. 2, Line 15;

- the damper (15) is freely movable (Col. 13, Line 49);
- the damper (15) is inserted into an opening formed in the shadow mask (Col. 13, Line 49);
- the damper is wire like member (Col. 13, Line 17) (Fig. 13);
- the damper (15) is a ring (Col. 13, Line 24) (Fig. 13); wherein
- the shadow mask is made of Fe-Ni alloy (Col. 6, Line 48).

Regarding claims 53-55, Suzuki et al disclose a color CRT having shadow mask with vibration attenuator comprising:

- an electron beam controlling circuit and a cabinet (Fig. 15) (Col. 1, line 20).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 4-5, 8-9, 20-21, 24-25, 39-42 and 56-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al (USP. 6,469,431).

Regarding claims 4-5, 20-21 and 41-42, Suzuki et al disclose a color CRT having shadow mask with vibration attenuator set forth in the claims except the fixed portion of the elastic support member has an area of at least 5 cm2 and to the area of the frame portion to which the elastic support member is fixed is at least greater than 1/25. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the fixed portion of

the elastic support member has an area of at least 5 cm2 and to the area of the frame portion to which the elastic support member is fixed is at least greater than 1/25 in order to make the vibration even larger since it was known in the art see (Col. 10, line 32).

Regarding claims 8-9, 24-25 and 39-40, Suzuki et al disclose a color CRT having shadow mask with vibration attenuator set forth in the claims except the force applied to the frame portion is adjusted to be in the range 1 kgf to 8 kgf and the spring constant of the elastic support member is adjusted to be in range of 0.1kgf/mm to 2.5 kgf/mm. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the force applied to the frame portion is adjusted to be in the range 1 kgf to 8 kgf and the spring constant of the elastic support member is adjusted to be in range of 0.1kgf/mm to 2.5 kgf/mm in order to provide a maximum value of tension stress between the center portion since it was known in the art see (Col. 4, line 12) (Col. 12, Line 3).

Regarding claims 56-58, Suzuki et al disclose a color CRT having shadow mask with vibration attenuator set forth in the claims except a loudspeaker. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a loudspeaker for TV, computers display, and cathode ray tube in order to improve a good sound since it was known in the art.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim3, 19 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al in view of Tokita et al (USP. 4,963,786).

Regarding claims 3, 19 and 36, Suzuki et al disclose a color CRT having shadow mask with vibration attenuator set forth in the claims except the connection portion has an approximately V shaped configuration. However, Tokita et al disclose a method and apparatus for supporting a shadow mask comprising the connection portion (22) has an approximately V shaped configuration (Fig. 2). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the connection portion has an approximately V shaped configuration in order to provide a flexible support for shadow mask.

Citation of relevant prior art

Prior art Suzuki et al (USP. 6,469,431) disclose a color CRT having shadow mask with vibration attenuator.

Prior art Nakagawa et al (USP. 6,037,709) disclose a cathode ray tube.

Prior art Tokita (USP. 4,963,786) disclose a method and apparatus for supporting a shadow mask.

Prior art Lee (USP. 5,210,459) disclose a shadow mask structure of a color cathode ray tube.

Prior art Mashimo et al (USP. 6,342,760) disclose a color cathode ray tube.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuc D Tran whose telephone number is (703)306-5984. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (703)308-4856. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7722 for regular communications and (703)308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

TDC
April 4, 2003

Don Wong
Supervisory Patent Examiner
Technology Center 2800